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EDITORIAL DEPARTMENT NOTE

There is a fair amount of information available in textbook and article form on the subject of accounting for returnable containers. There is relatively little available on methods of control for such containers. Today the accountant is just as interested in control as in accounting practice, as witnessed by the increasing number of articles on inventory control and fixed asset control in publications issued for accountants. Control as applied to returnable containers increases in importance with the size of the investment in containers and the value of containers in relation to their contents. We would expect a company whose investment in containers is the largest item in fixed assets and selling a product whose sale price is less than the value of the receptacle in which it is contained to have a most important problem of container control and to have developed a most effective method of container control. Those with a less pressing, but nevertheless important, problem can benefit from the experience of such a company. The first article in this issue of the Bulletin, describing the Skelgas Company's plan for container control should be helpful in this respect.

The author of this article is E. P. Priebe, a native of Chicago, who received his elementary education in that city. Following two years with the Rothacken Film Mfg. Co., Mr. Priebe entered the University of Illinois, from which he graduated with honors in 1930. Since that time he has been associated with the Eastman Kodak Co., the Kansas City Electrotype Co., the United States Gypsum Co., Arthur Anderson and Co., A Century of Progress and the Skelgas Co. He has been with the latter company at Kansas City in the capacity of an accountant since the fall of 1933.

Our second article relates primarily to accounting for returnable containers and rounds out the discussion of this subject in this issue of the Bulletin. The author's exposition of the methods available for accounting for specific types of containers is especially interesting. The author of this article is Charles W. Smith of Baltimore, who is a C. P. A. of both North Carolina and Maryland as well as a member of the Maryland Bar. Mr. Smith was employed for nine years as Auditor in the Income Tax Unit of the Bureau of Internal Revenue and for the past eight years has served as Chief Auditor of the Public Service Commission of Maryland. Mr. Smith is a Past President of the Maryland Association of C. P. A's. and an instructor in specialized accounting and cost accounting at Johns Hopkins University.

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NATIONAL ASSOCIATION OF
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JULY 15, 1937

THE SKELGAS COMPANY'S PLAN OF CONTAINER CONTROL

By E. P. Priebe, Accountant,
The Skelgas Company, Kansas City, Mo.

GENERALLY SPEAKING, the container investment of a compressed natural gas company is the largest single class of fixed assets. This is occasioned by (1) a relatively low turnover rate, and (2) the type of construction deemed essential by the Bureau of Explosives of the Interstate Commerce Commission. The containers are steel cylinders of such a weight that the cylinders weigh more than the natural gas, compressed to a liquid, contained therein and of such a construction that the cylinders cost more than the average selling price of the contents.

Natural gas (propane liquified) is pumped into the steel containers under pressure at company bottling plants. Being in a liquid state, the maximum amount of gas charged into a container. When a cylinder is in use, the pressure is released gradually, and automatically the liquid is transformed into the original natural gas. By means of a regulating device, similar in many respects to the regulating devices located in gas main serviced homes, the gas is allowed to enter into a conventional pipe leading to the appliance, such as a stove or a water heater.

The potential market for compressed natural gas includes every modern residence not located on a gas main as well as restaurants, hotels, schools, railroads, and similar commercial users. Distribution to our consumers is effected through two channels, namely, a dealer organization and the company-owned retail stores. The established practice of the industry as a whole is not to require deposits on cylinders except in unusual cases. Although we require no deposits, we have lost only a negligible number of containers during the past nine years. We originally maintained cylinder records on 3″ x 5″ cards using twice the clerical help we have now on less than one-half the number of cylinders. During this period, prior to the installation of tabulating machines, no follow-up on cylinders was made, causing the few cylinders we have lost to be untraceable.

With the foregoing comments to acquaint you briefly with the container problem confronting the industry, I would like to give you our solution. For purposes of clearness I will divide the discussion into the following points:

1. Tabulating machines versus other methods
2. Preparing the tabulating cards
3. The preparation and use of regular monthly statements prepared from tabulating machine cards
4. Special statements for varied uses
5. Cost of effectual cylinder control.

Tabulating Machines Versus Other Methods

The remarks which I made above concerning the use of 3" x 5" cards and their inadequacy were not intended as a reflection upon any of the other possible methods of cylinder control. The peg board system, card system, accounts receivable method, and others are entirely adequate under certain circumstances; but each of these systems has a limit of expediency whereby it is no longer practical from a dollar and cents standpoint Our company used the card system up to the point of looking after approximately 30,000 to 35,000 containers. At the present time we have approximately 80,000 containers and never once has the present system, which we have been using for approximately six years, even given a hint of inadequacy.

Aside from the dollar and cents standpoint, there is one argument on the side of tabulating machines which seems indisputable and that is one of flexibility. For effectual control, all cylinders must be so recorded that within a comparatively short time the management can secure information regarding cylinders in whatever form may be desired. It is true that with enough clerical help everything that can be obtained by our present system can be produced by hand; nevertheless, as far as we are concerned, the other systems must make a bow to the one we are now using when it comes to getting the job done quickly and accurately.

Preparing the Tabulating Cards

The tabulating machine cards which we use are of the standard 45 column variety on which provision is made for the following information:

1. Cylinder Number

Outgoing

2. Date Shipped
3. To Whom Shipped
4. From Where Shipped
5. Invoice Number

Incoming

6. Date Received at the Bottling Plant
7. From Whom Received
8. At What Point Received
9. Receiving Report Number.

All plants, warehouses, retail stores, retail consumers and dealers are expressed in terms of numbers worked out in a systematic coding All cylinders are serially numbered. When cylinders are received from the manufacturer the various numbers of the cylinders are entered on a receiving report. The cylinder clerk designates the manufacturer's code number, and thus makes it possible for tabulating machine key punch operators to punch the information on a card showing cylinder number, date received, from whom received, at what point received, and receiving report number. After the cylinders are filled with the natural gas, they are shipped to dealers on a combination invoice and shipping instruction form. The bill of lading portion contains the cylinder number of every cylinder shipped. From this the key punch operators punch the information on another card showing cylinder number, date shipped, to whom shipped, from where shipped, and invoice number.

Shipments to consumers direct or from retail stores are handled in much the same manner. When cylinders are received from locations other than manuacturers, the cylinder numbers are shown on the receiving report of the plant and from this source the key punch operators punch only the cylinder number, date received, at what point received, and receiving report number. You will note that we do not punch the information "from whom received." At various times during the month the receiving cards are sorted numerically, and then the cylinder clerk codes the number of the last location of the cylinder as determined by the location statement for

the previous month. (The size of our containers is such that normally cylinders are not returned in the same month in which they are shipped). After this code is placed on each card, the cards are passed to the key punch operators who go through and punch the information "from whom received." It is true that there is a waste of effort in having these cards handled by the key punch operators twice, but there would be a much greater waste of effort if the receiving reports were coded before passing them to the key punch operators. Such a system is impractical because the cylinders are not in numerical order on the receiving reports except for cylinders received from the manufacturer, and they cannot be placed in numerical order since the receiving reports are made up when and as the cylinders are received. You can visualize how much easier it is to check the last movement of the cylinder when the cards are sorted numerically for thousands of cylinders than it would be to check cylinder number 80,000, then 3,000, then 20,000, then 42,000, etc.

Naturally, there are corrections to be made from time to time due to errors in cylinder numbers as reported by the plants, etc. These corrections are written up in a form in which the key punch operators can punch a complete card. In this connection you will note that we do not go back and change the card which was in error but instead the correction is handled as a separate movement. The advantages of this method of handling are twofold: (1) we have a complete record of why the correction was made in case such corrections are questioned at a future date, and (2) we eliminate the clerical work involved in going through all the cards to pick out the one which would have to be repunched. The method we use for inserting these corrections in our permanent analysis will be discussed under the subject of the preparation of the tabulating statements.

The Preparation and Use of Regular Monthly Statements Prepared From Tabulating Machine Cards

After the cards have been prepared in the manner described above, the process of preparing the statements is more or less a mechanical one. I am listing below the various statements which we prepare for cylinder control purposes. Immediately following

this there will be a discussion of how the statement is prepared and the use to which it is placed.

1. Sales
2. Receipts
3. Transfers
4. Corrections
5. Location by cylinder number
6. Location by purchaser or warehouse.

Preparing Reports of Sales, Receipts, Transfers and Corrections

All cards punched from sales invoices are balanced in total to the total of full cylinder sales for the month. Fortunately, it is the practice of our company to sell only full cylinders of gas. With a large volume of sales, we have found it expedient to balance these cylinder cards with our cylinder sales daily and thus the amount of time required to locate possible errors is reduced. With this check we are positive that we have punched a card for each cylinder on every sale of gas; in turn, we check our stocks of gas through the usual stock control method. Although we have the assurance that we have a cylinder card for every sale, this does not infer that the correct number has been punched; however, such errors are ascertained through a method of check which will be discussed under the use of the location statement. These sales cards are sorted so that the tabulated run made from them shows the cylinder number, date shipped, to whom shipped, from where shipped, and the invoice number of all cylinders sold to consumers or dealers during the month. By having sorted the cards in this manner we can refer to *all* of the cylinder sales made to a particular dealer or consumer. This statement is used primarily for reference purposes.

All cards punched from receiving reports are balanced in total to the total of all cylinders reported received by the various plants. These totals appear on the daily receiving reports as a recapitulation of the day's operations. As in the case of the sales cards, we have found it advantageous to balance these cards from day to day as well as at the end of the month. A statement is prepared from these cards following the same form as the statement made for the sales cards; that is, in so far as the sequence is concerned

because this statement also is used primarily for reference purposes. Of course, the information will vary from that shown on the sales statement in that the cylinder number, date received, from whom received, at what point received, and the receiving report number will be shown.

All cards punched from the transfers between warehouse locations are balanced in total to the total of the transfers for the month. Because of the fact that such transfers are principally full cylinders of gas, we also check the total to make sure that it is in agreement with the transfer total as shown on our stock records. In the event of transfers of empty cylinders from one plant to another, the total is reconciled The statement prepared from these cards shows all of the cylinders transferred to a particular location during the month as well as the date shipped, from where shipped, and the number of the transfer. The primary purpose of this statement is also for reference purposes.

All cards punched from the correction report are balanced in total to the total of the corrections made during the month. The statement prepared from these cards differs from the previous statements in that it is run numerically by cylinder number. The information on the statement varies according to the type of movement being corrected. For example, if we are correcing the cylinder number on a previous month's receiving report, the information shown for this correction is the complete information for the receipt which would have been shown originally if the number was correct on the receiving report. As in the case of the previous statements which I have discussed, this statement is used primarily for reference purposes.

Preparing Location Reports

In effect, these statements represent a register of all transactions which have occurred during the month and are, in reality, only a means to an end. For effectual control the statements offer little help except for reference purposes. In order to achieve the desired result, our company prepares and uses two additional statements which are in effect cumulative data taken from the sales, receipts, transfers, and correction registers. One of these statements is a location statement by cylinder number and the other is a location statement by purchaser or warehouse.

The location statement by cylinder number shows what has happened to each cylinder during the month. As you would surmise, this statement is sorted in such a manner that we get a chronological story of every cylinder in numerical order. In order to obtain this statement, we take the card indicating the last known location for each cylinder from the previous location by cylinder number statement and then sort in the correction cards which were used in the correction statement mentioned above. These cards are always sorted in first because the corrections made during the month are corrections of cylinder movements which occurred in previous months and naturally these would take precedence over the current month's transactions. Then the current month's cylinder movements for sales, receipts, and transfers are sorted in chronologically with the card indicating the last known location for each cylinder from the previous location by cylinder number statement and the correction cards. After this is done the cards are then in order to run the statement. This statement is our basis for locating and correcting errors. The movements on each of the cylinders are inspected and if the movements are logical, we pass to the inspection of the next cylinder. In other words, if the statement shows a certain cylinder as being received during the month and then shipped at a later date in the month, we can assume that the movement is logical. However, if the movements are not logical, such as a cylinder being shipped from a plant during the month and not returned from the dealer who was charged for the container at the end of the previous month, we must check the references to determine what is wrong. This sometimes necessitates writing to the various sources of the information to double check their records in order to assist us in making the necessary correction.

The location statement by purchaser or warehouse shows all cylinders in the possession of a particular consumer, dealer, warehouse, retail store, or bottling plant. In actual practice this statement is the first step in the preparation of the following month's location statement by cylinder number because only the card indicating the last known location for each cylinder is used. (Incidentally, we were able to effect a startling economy by changing from a manual operation to the use of a sorting machine equipped with a special device.) After the 80,000 last known location cards

are thus obtained, we sort them numerically and the statement we prepare shows the cylinder numbers and complete references for all containers charged to a consumer, dealer, warehouse, retail store, or bottling plant. From this statement we can check the physical inventories of our warehouses, retail stores, and bottling plants. If there are any differences, we then proceed immediately to determine why these differences occur. In other words, at this point we place the responsibility on our employees to account for all cylinders remaining charged to their particular locations at that time. You might say that everything which has preceded this phase of the discussion has been one of record keeping and at this point we are now dealing with cylinder control.

Use of Location Reports

Naturally, the number of cylinders at warehouses, retail stores, and bottling plants is relatively few except during the months of low sales at which time the number charged to the bottling plants will increase, but even then, comparatively speaking, the number of such cylinders is small. That portion of the statement which is applicable to consumers is prepared in duplicate and a copy is sent to the retail store that services the particular consumer and, if the cylinder has been outstanding for a considerable period of time, then it is the responsibility of the retail store manager to tell us why this cylinder has not been returned to the bottling plant or better yet, to see that the cylinder is returned promptly. That portion of the statement which is applicable to dealers is also prepared in duplicate and a copy is sent to the dealer. It is his responsibility to get the cylinders which have been outstanding for a considerable period of time returned to the bottling plant promptly. Our district salesmen calling on these dealers serve as a double check on the dealer to see that the job is done. If neither of these two methods gets the desired result, then we always have the alternative of demanding a deposit from the dealers on the older cylinders.

The above discussion completes the subject of the regular statements except that I would like to mention the time-saving value of fanfold type paper. Statements prepared on this paper are easier to handle for reference work and easier to run on the tabulating

machines. Our regular schedule for the preparation of these statements is as follows:

1. Sales, fourth day of the following month
2. Receipts, fourth day of the following month
3. Transfers, fourth day of the following month
4. Corrections, fourth day of the following month
5. Location by cylinder number, sixth day of following month
6. Location by purchaser or warehouse, eighth day of follow-lowing month.

The above schedule is not just a "par" but a definite working schedule which is maintained throughout the year except when legal holidays intervene. Saturdays and Sundays do not hold up the schedule, and we sometimes do better than the above schedule. For example, last month we prepared the first location statement on the fifth day of the following month and the second location statement on the seventh day of the following month.

Special Statements for Varied Uses

We are satisfied that the above control more than pays for itself. However, when certain sales policies are announced from time to time which are related in some manner to the containers, we have found that with a slight variation of our present system we are able to produce the desired results with a minimum of effort. For example, a few years ago our company deemed it advisable to make a survey of our consumers serviced by dealers. This survey involved a record of the consumer purchases from the dealers and also a record of the empty cylinders returned by the individual consumers. The problem of maintaining a record of the purchases was not a particularly difficult one and could have been handled in any one of several different ways. We chose a method of setting up a card for each consumer and posting the cylinder number and date purchased as reported by the dealers. Our big problem was that of getting the information concerning the return of the cylinders. By filing the consumer delivery receipts sent to us by the dealers in a numerical file and having a numerical statement prepared twice a week by the tabulating unit of the cylinders returned to the plant, we believe we have the shortest method of

obtaining the necessary information. The preparation of these special receiving statements from the receiving cards that are used in making up the regular statements mentioned above takes approximately four hours per month.

Our company recently announced to dealers that we would furnish monthly statements showing the number of months the cylinders returned by them were outstanding from our plants—expressed in number of months greater than or less than the company average. While such a statement seems like a hopeless task, nevertheless, with the addition of one person's time we have been able to add certain information to the receiving cards so that on the fourth day of each month we prepare in quadruplicate individual statements by dealers covering the previous month showing the information for every cylinder returned (cylinder number, date shipped to the dealer, date returned to the plant, and the number of months less than or greater than the company average). The statements show the net number of plus or minus months for each dealer, thereby showing the dealer as well as ourselves whether or not the turnover rate is high or low. If the turnover rate is relatively low, then we check our supplementary record of consumer purchases and returns for the particular dealer to ascertain the cause. If the dealer does not have an abnormal number of low consuming purchasers, then we send a representative to the territory to correct the situation because, obviously, the dealer is lax in getting the empty cylinders returned to the plants.

Still another policy announced within the last year which has made imperative the flexibility of our cylinder records, required a deposit from dealers on cylinders outstanding over one year from date of shipment from our plants. After all regular statements have been prepared, we sort out all shipments made during the period subject to the deposit penalty and then sort such cylinder cards by dealers and make a statement showing the cylinder number, invoice number, and date shipped on all such cylinders for each particular dealer. From this statement very little time is required to issue invoices to the dealers. In order to secure the information for the refunding of the deposits, we sort out the receipts of cylinders which were shipped in the applicable period, and by making a statement similar to the deposit statement mentioned above, we are able to issue checks or credit memoranda to cover.

Such a small amount of time is required to handle such a procedure that no additional help was needed.

Cost of Effectual Cylinder Control

The above method of effectual cylinder control is not costly. To the contrary, our procedure of preparing the regular monthly cylinder statements involves slightly over 5,000 hours of clerical work per year for the approximate 80,000 containers. This is less than four minutes per cylinder per year. The total cost, including clerical work, cost of tabulating cards, and rental of tabulating machine equipment, is less than $5,000 per year In other words, effectual cylinder control together with statistical data for sundry uses costs our company slightly less than six cents per cylinder per year.

ACCOUNTING FOR RETURNABLE CONTAINERS

By Charles W. Smith, Chief Auditor,
Public Service Commission, Baltimore, Md.

ALTHOUGH THE subject of accounting for returnable containers has been rather neglected in the literature of accounting, it is, nevertheless, important and, at the same time, interesting. The subject is important because large sums are invested in returnable containers and neither the profit and loss statement nor the balance sheet will reflect true conditions unless proper recognition has been given to all the facts surrounding returnable containers; the subject is interesting because the accounting problems it presents have no parallel in other transactions.

Returnable containers are of many kind and description. Thus we have cement sacks, cake boxes, milk bottles, beer bottles, kegs and barrels, metal drums, steel cylinders, reels, tank cars and many other varieties. Containers may be cheap or expensive, fragile or durable

The contractual arrangement between the vendor and vendee likewise varies according to the nature of the container and the nature of the businesses using it. In some instances the customer has the option of keeping the container or returning it, whereas in other cases the container is the absolute property of the vendor and must be returned. The customer is charged a deposit for the container in some industries, whereas in others no charge is made. In some businesses the customer has the use of the container free, whereas in others he is charged for its use, and in still others a charge is made after the elapse of a free time.

The accounting, of course, must voice the facts. The accounting depends upon two things: the nature of the container, and the contract of the supplier with the customer. In general, accounting for returnable containers may be divided into:

(1) Cost of container
(2) Depreciation
(3) Liability for refund upon return.

In order to show concretely the application of accounting principles to returnable containers, the accounting for a selected group of them will now be discussed.

1. Cement Sacks

A few years ago cement sacks cost the manufacturers about 20¢ each, but they were billed to customers at 10¢ each and were the subject of a credit or refund of 10¢ each upon being returned in good condition. It will be recognized that a manufacturer was thus faced with two costs or losses, (1) the difference between 20¢ and 10¢ a sack for each new sack shipped, and (2) the loss of 10¢ on each old sack in his possession which was unusable. Three methods have been employed in accounting for the cost of sacks under the circumstances just outlined. Under the first method, the difference between 20¢ and 10¢ a sack is taken as a loss when the sacks are purchased. To illustrate, assume that 10,000 sacks are purchased and then 2,000 are shipped out. The entries would be as follows:

New Sack Inventory	$1,000	
Container Cost (Expense).....	1,000	
Cash		$2,000
Container Cost	$ 200	
New Sack Inventory.....		$ 200

At the same time the customer is charged and Cement Sales, Revenue from Sale of Sacks or a similar account credited as explained later. When the sacks are returned the entry is:

Old Sack Inventory	$ 200	
Cash or Accounts Receivable		$ 200

at 10¢ for each sack returned.

For the shipment of old sacks the entry would be:

Container Cost (Expense).....		
Old Sack Inventory.....		.....

also at 10¢ each.

Under the second method the loss on new sacks is not recognized until the new sacks are shipped. Thus continuing the illustration mentioned above of 10,000 sacks purchased at 20¢ each and 2,000 shipped at 10¢ each, the entries would be:

New Sack Inventory	$2,000	
Cash	.....	$2,000
(10,000 sacks at 20¢ each)		
Container Cost (Expense)	$ 400	
New Sack Inventory	.....	$ 400
(2,000 sacks at 20¢ each)		

The entry for returned sacks and for the shipping of old sacks would be the same as outlined under the first method. Where the second method is in operation it is desirable to feed out the new sacks as evenly as possible in order not to over-burden any one or more periods to the advantage of others.

Under the third method, the cost of new sacks is combined with the cost of old sacks and an average price for charge-outs is obtained. The average price is determined as of the first of each month and that price is used for all shipments during the month. To illustrate, if 20,000 sacks were on hand at the beginning of a month at an average cost of 15¢ and 10,000 new sacks were purchased at 20¢ and 20,000 old sacks purchased or redeemed at 10¢ and 15,000 sacks shipped during the month, the inventory account would appear as follows:

SACK INVENTORY

20,000 sacks @ 15¢....	$3,000	15,000 sacks @ 15¢....	$2,250
10,000 " " 20¢....	2,000	Balance 35,000 sacks @	
20,000 " " 10¢....	2,000	13.57¢	4,750
50,000	$7,000		$7,000
35,000 sacks @ 13.57¢..	$4,750		

The price of 13.57¢ would be used for charge-outs in the succeeding month.

The objection to the third method is that the inventory value may be overstated. The second method appears to be the most accurate, although it involves a little extra work in keeping track of the new sacks shipped. The first method obviously falls short of good accounting.

The next question involves depreciation. Should a reserve for depreciation be set up for the sacks, and if so, should it cover only the sacks in the possession of the manufacturer or should it cover the sacks in the hands of customers too? It is suggested that a reserve for depreciation is unnecessary. In the first place, a large part of the loss is recognized under a proper system of accounting when new sacks are shipped. As long as old sacks are usable, they have a value of 10¢ each. If the sacks go bad in the hands of customers, the customers, according to rule, bear the loss. Hence the only additional loss to the manufacturer is on the sacks which become worthless in his hands. (We must be realists enough to know that sometimes it is prudent to accept worthless sacks from good but insistent customers). A reserve for such losses should be set up monthly, based upon the experience of the manufacturer, by a charge to Cost of Containers; when sacks are deemed worthless they are charged to the reserve and credited to the Old Sack Inventory account at 10¢ each.

The final question under this section relates to the amounts paid for the sacks by the customer. Should such amounts be included as Cement Sales, as Revenue from Sale of Sacks or should the amounts be classified as a liability and called Deposits on Sacks? According to strict accounting theory the second method (Revenue from Sacks) is the most accurate for the sacks are actually sold, but for convenience, the total amount charged customers is frequently included in Cement Sales account. This, of course, offsets the charge made to the Container Cost account mentioned earlier. The deposit account has no place in the immediate scheme of things, for in order for a deposit account to be operative it would be necessary to show as sacks owned all sacks in the possession of customers as well as those on hand, an unwieldly and impractical procedure and one not likely to produce accurate results because the sacks held by the customers are not owned by the manufacturer. It follows, therefore, that the method advocated by the writer treats the amounts paid for sacks by customers as sales and the "redemption" of them as purchases.

Suppose, however, the sacks cost the manufacturer 10¢ each and were subject to redemption at 20¢ each. Obviously such a practice would be bad, but it has existed. Then there would seem to be no recourse but to set up a liability account showing the

liability to redeem or repurchase the sacks at 20¢ each. All sacks, whether in the hands of the manufacturer or customers would be shown as an asset at cost. Those sacks which experience indicate would not be returned, would be charged off periodically, and at the same time the deposit thereon would be appropriated.

The income tax decisions on this subject are interesting. In *Dewey Portland Cement Co.* vs. *Crooks,* 57 F. (2d) 499, it was held that the sacks were sold to the customers and any amount charged to customers for cement sacks should be included in revenues. The price quoted for cement included the sacks; the sacks were repurchasable at 25¢ each. A liability for the sacks to be repurchased was not approved by the court

In *Alpha Portland Cement Co.* vs. *United States,* 67 Ct. Cl. 680, it appears that the contract between vendor and vendee specifically provided that title to the sacks vested in the company and were only leased to the customer. The court held that sales of sacks did not take place and that only the deposits on the sacks which would not be returned (as indicated by the experience of the company) should be reported as income. Thus title to sacks seems controlling for income tax purposes.

2. Cake Boxes

To a large extent a few years ago and to a lesser extent in more recent times, it has been the practice of large biscuit and cake companies to ship their products in metal containers. For purposes of illustration let it be assumed that the containers cost the bakers 60¢ each and that a charge of 50¢ each was made to the customers.

The accounting for cake containers might well follow that suggested for cement sacks were it not for three things: (1) The amount of the charge or deposit is relatively larger and may involve a substantial liability. (2) Cake boxes have more of a habit of returning home than cement sacks, (probably because of the relatively larger charge and also because of the practice of permitting containers not in good condition to be returned). (3) Cake boxes might still be in useable physical condition, hence returnable but unuseable in fact because unsightly.

Accordingly, it would seem proper to credit the amounts charged to customers for containers to a liability account—Deposits on Containers. Such being the conclusion, no loss on new

containers should be recognized when they are first shipped. When containers are first purchased they should be charged to a Container (asset) account. An inventory record should be kept showing the containers which should be on hand and those in the hands of customers, but there is no need to carry this segregation to the general ledger; a statistical record is sufficient.

What about depreciation? Depreciation should be recognized. The container account becomes the base for depreciation charges and the cost of containers (whether in the hands of the vendor or in the possession of customers) should be spread over the average life of the containers. When containers become worthless, they should be credited to the asset account and charged to the reserve. If the year of purchase and cost be known, then only the depreciation accrued to date of abandonment should be charged to the reserve and the difference between that amount and cost should be charged to Loss on Containers.

Some containers, of course, will never be returned. The number thereof can be estimated after several years of experience. An estimate of such containers should be made periodically and the total deposits thereon (containers x 50¢) charged to Deposits on Containers and credited to Other Income or, conservatively, to the reserve for depreciation. Again, if the exact containers can be identified (years acquired and cost), the entry would be a debit to Deposits and a credit to Profit and Loss on Containers.

In the case of cake containers the amounts charged to customers for the containers are not credited to revenue, since a sale is not deemed to have taken place.

The position advocated herein is in conflict with a decision of the United States Board of Tax Appeals in the case of *Iten Biscuit Co.* v. *Commissioner*, 25 B.T.A. 870. In that case the company claimed it did not sell the containers but that they always belonged to it no matter where located. The Board disagreed. It held that the transactions whereby customers became possessed of the containers was not a bailment because the customers were not required to return the actual containers (any container "even if it is picked out of a junk heap" would be accepted) and the 50¢ deposit could be paid in satisfaction of the claim of the company. Accordingly, the deposits charged customers were held to be sales

and not liabilities and the company was enjoined from taking depreciation on the containers not actually in its possession.

However, the scheme herein advocated adheres to the conservative principles of accounting and should be preferred to a method which does not disclose the full facts. It may well be argued that there is little difference, except physical, between cake containers and cement sacks, but it is suggested that there is sufficient difference to warrant different accounting treatment.

3. Milk Bottles

Milk bottles come under the category of returnable containers. Unlike cement sacks and cake boxes the customers are not usually charged for them, hence no question of liability for deposits arises. The only real problem presented is the determination of the amount which should be charged to expense on account of them.

When bottles are purchased they may very well be charged to New Bottle Inventory, and when put into use the latter account may be credited and Bottles in Use charged. The latter account is an asset account. An inventory record may be kept showing the bottles by sizes, both new bottles and those in use. Depreciation as such is not recommended, for bottles do not wear out, but a Reserve for Bottle Losses should be set up monthly, based upon the experience of the past. Many bottles, of course, will not be returned and some of them will be returned in a defective condition. The reserve for Bottle Losses should be charged and a concurrent credit made to Bottles in Use yearly or oftener for the cost of those bottles which have gone astray or been destroyed. The losses must be estimated, of course, because there is no accurate and practical method of determining the actual number of bottles in use.

One method, which is conservative and satisfactory, is to add to the number of bottles actually on hand as at the end of a particular day the bottles delivered that day, and to call the total Bottles in Use Any difference between the total thus arrived at and the inventory record is charged to Reserve for Bottle Losses and the inventory record adjusted accordingly. The inventory should list the bottles by sizes. An average cost according to size

satisfactorily represents the cost per unit in determining the amount of the charge-offs.

4. Beer Bottles and Barrels

The revivification of the brewing industry has brought to the fore accounting for beer containers. Beer is usually sold in bottles by the case (24 bottles to the case) and in barrels (frequently one-half and one-quarter barrels). It is a custom of the trade to require deposits on cases, bottles and barrels and this custom must be given recognition by the accountant.

When beer containers are first purchased they should be charged to their respective inventory accounts and when put into use, the latter account should be credited and cases, bottles and barrels, etc., concurrently charged. There are two methods of accounting for cases and bottles shipped. Under the first method, the amount charged to customers for cases and bottles is credited to sales; hence the cases and bottles shipped should be charged to expense. The pertinent entries follow:

Accounts Receivable	$22.50	
Sale of Beer		$15.00
Sale of Cases		2.50
Sale of Bottles		2.70
(To record sale)		
Case Cost	$ 2.70	
Bottle Cost	5.10	
Cases in Use		$ 2.70
Bottles in Use		5.10
(To record container cost)		

When the cases and bottles are returned, the entry is:

Cases in Use	$ 2.50	
Bottles in Use	5.00	
Cash or Accounts Receivable		$ 7.50

Thus the cases and bottles shipped are deemed to represent sales. The cost of cases and bottles represent an average cost. The chief objection to the method is that no liability is shown for the containers which will be returned (redeemed) in the ordinary

course of business. The brewery is not in the business of selling containers.

The other method, which is preferable, is to consider the cases and bottles as always belonging to the brewery, no matter whether in its physical possession or in the possession of customers. The amounts paid by or charged to customers as deposits are credited to a liability account rather than to sales. Thus if ten cases of beer were sold to a customer at $1.50 per case plus a deposit of 75¢ on each case, the entry would be:

Accounts Receivable	$22.50	
Beer Sales		$15.00
Deposit on Containers		7.50

When the customer returns the case the following entry would be made:

Deposit on Containers	$ 7.50	
Accounts Receivable		$ 7.50

If the customer paid this amount by cash, the entry would be:

Cash	$22.50	
Accounts Receivable		$22.50

and the liability account would remain unchanged. Usually no entry is made to reflect the containers in the possession of customers although there is no objection to showing that fact by the following entry:

Cases in Hands of Customers	.....	
Bottles in Hands of Customers	.....	
Cases in Use		.....
Bottles in Use		.....

Depreciation is not recognized under the first method. At periodic intervals physical inventories of the containers on hand are taken and the difference between the physical inventory figures and the book figures is charged to Losses on Cases and Bottles, an account built up by monthly charges to expense.

Under the second method it is quite usual to ignore depreciation, although some companies accrue depreciation on both cases and bottles whereas others accrue depreciation on cases alone. If depreciation be taken it should cover containers in the hands of

customers as well as those in the possession of the brewery. Losses under the second method must be accounted for. The differences between the physical inventories and book inventories of cases and bottles in the possession of the brewery should be charged to Losses on Containers or to the Depreciation Reserve if one be kept. In addition to the above, certain containers will never be returned. The latter must be estimated of course and when the containers are charged off, the respective amounts of deposits should be appropriated. The entries for the two transactions might appear as follows:

Losses on Containers..... .....
  Cases in Use..... .....
  Bottles in Use..... .....
(To charge off containers which will not be returned.)
Deposits on Containers..... .....
  Losses on Containers..... .....
(To appropriate deposits on containers which will not be returned.)

If a depreciation reserve is maintained, that account would appear in place of Losses on Containers above. No adjustment to the customer's account is necessary, but if an account be paid up a long time except for the container charge, the latter should be collected.

The accounting for barrels should follow the second method under the present subheading. Barrels are not sold to customers. They remain the property of the brewery, hence they should appear in its balance sheet. The deposits charged customers are almost invariably credited to a liability account. Barrels are likewise subject to depreciation and a depreciation reserve should be set up for them.

The United States Board of Tax Appeals has held that the second method above does not satisfy the requirements of the income tax laws but that the first method, treating the deposits as sales, does meet the requirements.

In the case of *Plymouth Brewing Company* v. *Commissioner,* 16 B.T.A. 123, the Board of Tax Appeals held that containers, such as cases, bottles and kegs, were in fact sold to customers and that the amounts charged customers as a deposit or otherwise for the

containers should not be excluded from income. As a corollary, the cost of all containers, new and repurchased, should be charged to expense and the containers actually on hand at the close of the fiscal year shown as an inventory item. It should be noted that the income tax law does not necessarily and in all cases follow or adopt conservative accounting practices.

A word concerning customers' accounting. In the brewery business the containers (kind and number of each) charged to each customer is deemed necessary information. The information is shown in each customer's account by providing columns for containers shipped, returned and for the balance due. There are many variations of the ledger sheet but all have the same theme. Figure 1 at the end of this article is a typical accounts receivable ledger sheet designed to reflect the necessary data. The container columns are statistical only. The amounts charged for containers and credited for their return are entered in the amount columns. Some accountants claim that for balance sheet purposes the accounts receivable should be divided and show separately the amounts due for beverage and the amounts due for containers. The information, if desired, can easily be obtained from the ledger accounts. Such a ledger sheet as shown in Figure 1 may give valuable data as to containers which are not likely to be returned.

5. Cylinders and Drums

Cylinders and Drums are used in many industries. Cylinders are employed to ship gas of many varieties and drums are used to ship liquids, chemicals, etc. The contract between vendor and vendee in regard to cylinders and drums are likewise varied; sometimes a deposit is charged and sometimes not; in some businesses a charge is made for the use of the containers whereas in others no charge is made, while in still other instances a daily charge (demurrage) becomes effective after the elapse of a specified free time. Cylinders and drums are expensive and frequently represent a very large investment. Because of the relatively high cost and because each cylinder or drum can readily be identified by number, the accounting for those containers involves problems not encountered in accounting for the other containers discussed hereinbefore.

When cylinders or drums are purchased they are preferably charged to an asset account such as New Cylinders, and when placed in use, the latter account is credited and Cylinders in Use (another asset account) charged. New cylinders should not be released from the storeroom except upon proper requisition. When the cylinders or drums are shipped to customers, there is no need to credit the Cylinders or Drums in Use account, but a statistical record should always be kept showing by sizes the cylinders or drums which should be on hand and those in the possession of customers. If the customers are charged with amounts representing deposits on the containers, the invariable rule is to credit such amounts to a liability account—Deposits on Cylinders or Drums. The accounts receivable are not usually divided between amounts due for the product and deposits. The return of these containers calls for the usual credit to the customers' account and a concomitant charge to the liability account.

If no charge is made for the use of the containers (a rental charge in contradistinction to a deposit), the only problem is to have the container returned within a reasonable time and the solution to that problem follows shortly. If a charge is exacted at the end of each month or at the time the container is returned (each month gives more accurate monthly statements), an entry is made as follows:

Accounts Receivable ....
Rent of Cylinders or Drums..... .....

A reserve for depreciation should always be set up for cylinders and drums and each container should be considered a unit for the purpose of computuing depreciation charges.

Each container should be numbered in such a manner as to permit of ready identification. A card ledger should be maintained for each container showing its number, size, description, cost and amounts set up in respect thereto for depreciation. (See Figure 2.) The card record will support the general ledger account, Cylinders or Drums in Use, and it will likewise show the details of the Reserve for Depreciation—Containers. When a cylinder or drum is abandoned the cost thereof, as shown by the card record, should be credited to Cylinders or Drums in Use, the amount of accrued depreciation (also as shown by the card)

charged to the reserve for depreciation, and the balance, if any, recorded as a loss.

The location of each container must be known at all times. In order to obtain this information the customers' account should show all containers, by numbers, issued to them, all returns and the balance due. (See Figure 3.) In addition to the customers' records which do not show the containers in numerical sequence, a numerical record is sometimes maintained. The latter record (see Figure 4) is filed numerically and shows at all times the location of each container. The reverse of the card shown as Figure 2 may be ruled to give the same information. Close cooperation between the shipping-receiving department and the accounting department is essential for the successful operation of the record.

If rent is charged for the use of cylinders and drums, then, usually, at the end of each month, the customers are billed for each container at a specified rate per day for the number of days held during the particular month. The necessary billing information is obtained from each customer's account. Before the bills are sent out, they are checked with the numerical record as a precautionary measure. When a container is returned, the receiving report is compared with the numerical record and the customer is billed for the number of days which have elapsed since the last of the previous month or from date of delivery if delivery occurred during the same month. If free time is allowed before demurrage begins, it is suggested that the most convenient method is to wait until the container is returned before billing the customer. This method may not result in the most accurate monthly statements, but to cure that defect an entry as follows can be made at the end of each month.

Accrued Rent ....
  Rent Income ....

and the entry reversed at the beginning of the following month.

Because of the value of the containers such as cylinders and drums, a monthly report showing all such containers outstanding more than a specified number of days should be compiled. The report can be compiled from either the numerical record or the accounts receivable ledger.

Large containers are usually returnable at the expense of the owner, hence the owner frequently has a liability for freight. This liability should be recognized by crediting monthly an accrued freight liability account and by charging the freight paid to that account.

Many types of returnable containers not discussed herein will probably occur to the reader. Neither space nor time permit of a discussion of some of the relatively more important containers which have not been mentioned. It is undoubtedly true that the accounting scheme for containers will vary, depending upon the nature of the container and the terms of the contract between vendor and vendee. It is believed, however, that the accounting methods discussed herein, either singly or in certain combinations, will apply to most of the returnable containers not portrayed. At least that is the writer's hope.

Name _____ Credit Rating _____

Address _____ Remarks _____

Date	Ref	Description	Containers Shipped				Total Debits		Date	Ref	Description	Containers Returned				Total Credits		Balance Due Containers				Balance Due Amount	
			Cases	Bottles	1/2	1/4						Cases	Bottles	1/2	1/4			Cases	Bottles	1/2	1/4		

Figure 1

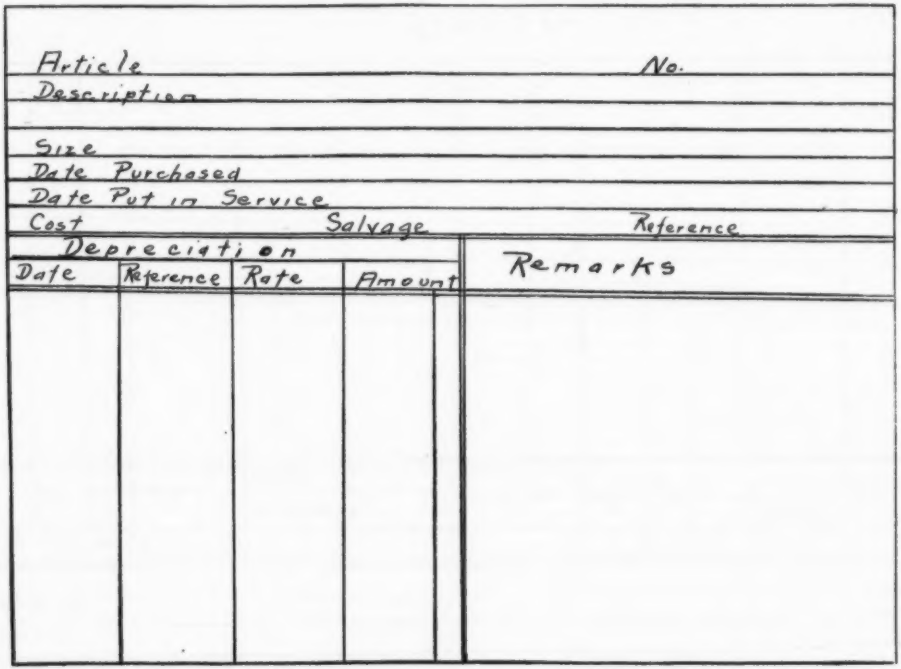
Article
No.
Description
Size
Date Purchased
Date Put in Service
Cost
Salvage
Reference
Depreciation
Date
Reference
Rate
Amount
Remarks

Figure 2

Name Credit Rating
Address
Remarks

Debits					Credits				
Date	Ref	Description	Container Number	Amount	Date	Ref	Description	Container Number	Amount

Figure 3

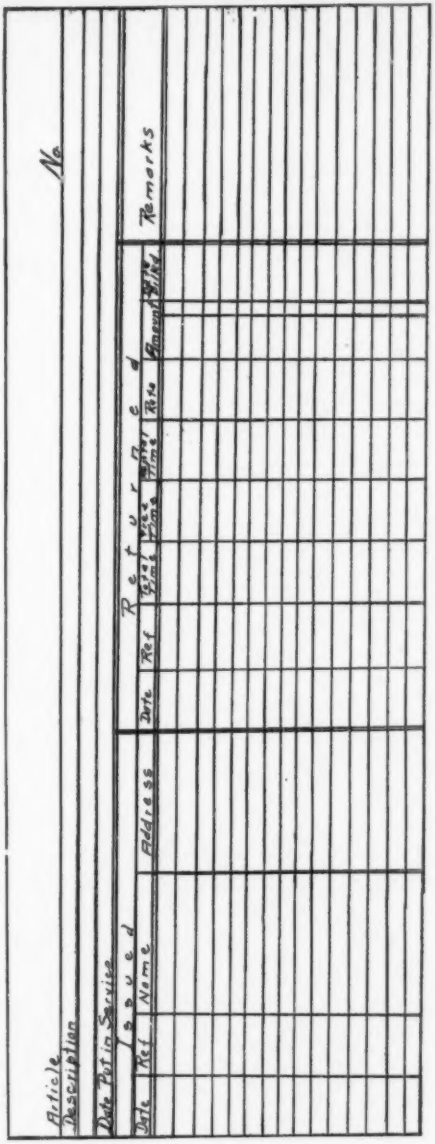
No.
Article
Description
Date Put in Service
Issued
Date
Ref.
Name
Address
Returned
Date
Ref.
Gas Used
Water Used
Time
Rate
Amount
Kind
Remarks

FIGURE 4

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